

**INTERSESSIONAL PANEL OF THE UNITED NATIONS COMMISSION
ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)**

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Contribution by UNDP

**to the CSTD 2025-2026 priority theme on “Science, Technology and Innovation in
the age of AI”**

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UNDP Inputs to the CSTD 2025-2026

PRIORITY THEME: Science, Technology and Innovation in the age of AI

- 1. Can you provide some successful examples of how AI and data are being used to advance science and innovation in your country? (Please describe how these applications transformed research and development practices and their impacts)**

AI and data are increasingly applied to accelerate progress in science and innovation across multiple domains, including in developing countries and low-resource contexts. For example, UNDP has supported the use of satellite imagery combined with AI algorithms to monitor agricultural yields and biodiversity loss in developing countries. This has enabled governments to anticipate food security risks, adapt agricultural policies, and optimize resource allocation. One example of such initiatives is [DiCRA](#) – Data in Climate Resilient Agriculture - an open-access digital public good developed by UNDP India Accelerator Lab. DiCRA provides geospatial data on 50 million hectares of farmland to support climate-resilient agriculture. Used by the National Bank for Agriculture and Rural Development (NABARD) for policymaking, R&D, and resource allocation, the tool optimizes farming practices and improves resilience to climate shocks.

In health, AI-enabled diagnostics have improved early detection and treatment planning in low-resource contexts. For example, in Turkmenistan, [UNDP implemented CAD4TB AI kit](#) for Tuberculosis Screening. The project uses deep learning to analyze chest X-rays for TB detection, providing probability scores and heatmaps, indicating potential abnormalities. Available in both offline and online versions, CAD4TB is portable and integrates seamlessly with existing health infrastructure, supporting patient registration and reporting. The initiative aims to enhance TB control efforts by providing quick, accurate screening, supporting remote areas, and aligning with global health goals.

In climate science, AI is helping model extreme weather patterns and forecast disaster risks, strengthening resilience planning. These applications have transformed research practices by reducing costs, increasing the speed of analysis, and opening opportunities for evidence-based policymaking that was previously out of reach for many countries. In India, for example, UNDP strengthened environmental monitoring and compliance enforcement and improved air quality management with [GeoAI for Air Pollution](#), a project around AI-powered detection of environmental non-compliance (e.g., industrial emissions) from satellite imagery.

- 2. What specific challenges, bottlenecks, or failures have you encountered in implementing AI and data for science and innovation? What are the lessons learned?**

Despite successes, the implementation of AI and data in science and innovation faces persistent challenges:

- Data gaps and limited interoperability: Many developing countries lack high-quality, diverse, disaggregated datasets. Even when data are available, limited interoperability between technical, legal, and governance systems often prevents sharing and reuse.
- Lack of localization: Many linguistic communities – particularly low-resource and Indigenous languages – are underrepresented online. This results in a lack of high-quality datasets, limited availability of localized AI tools, and the risk of exclusion from the opportunities of the digital age.
- Capacity constraints: There is a shortage of talent and local AI expertise, from data scientists to policymakers who can design, deploy, and govern AI solutions. Capacity building remains a top request from countries to UNDP.
- Governance and regulatory gaps: Many countries lack clear policies, standards, or regulatory frameworks for AI and data use. This creates uncertainty for innovation and limits trust in AI systems. Fragmented efforts across government, private sector and academia can lead to missed opportunities, siloes or duplication.
- Infrastructure limitations: High costs of computing resources, connectivity, and energy access remain bottlenecks.
- Trust and safety considerations, concerns, and risks: Biases in algorithms, lack of privacy protections and safeguards.
- The speed and adoption of AI today demand new approaches and expanded scope for trust & safety. Existing AI Trust and Safety models need to evolve to become more culturally responsive to the different ways that AI harms can manifest locally, and they ought to be grounded in the realities of different contexts. It goes beyond technical safeguards -- investing in human and institutional capabilities, fostering digital literacy, and empowering people and communities to participate meaningfully in shaping AI and its safety measures are all important.
- Unsustainable funding models: New AI start-ups, especially in low-resource language ecosystems, often lack stable financing, limiting their ability to scale or maintain datasets and applications.

Key lessons learned are that technological solutions cannot succeed in isolation. They require parallel investments in broader digital ecosystem, capacity building, local ownership, multi-stakeholder engagement, and governance frameworks. Building inclusive AI ecosystems requires community-driven approaches that prioritize consent, data provenance, and shared benefit. Embedding safeguards at the design stage - not as an afterthought - is critical for sustainability.

3. Can you provide examples of strategies or policy instruments to support AI and data for science and innovation? (Please describe how ethical considerations—such as fairness, transparency, privacy, and accountability—are being incorporated and provide relevant details such as links, budget, evaluation, or other information to characterize them)

Several strategies and policy frameworks are being advanced at national and international levels to guide the use of AI and data in science and innovation:

- the Broadband Commission Working Group on Data Governance – co-chaired by UNESCO, ITU, UNDP, and the African Union – has developed the [Data Governance Toolkit: Navigating Data in the Digital Age](#), a practical resource designed to support governments and institutions in building inclusive, rights-based, and future-ready data governance frameworks. Based on practical experience and intended to complement global efforts like the Global Digital Compact, the Toolkit is a living resource aimed at public officials, policymakers, and practitioners committed to putting people and the planet at the center of data governance efforts.
- the [Data to Policy Initiative](#), developed by UNDP in collaboration with GIZ on behalf of BMZ and the EU, aims to promote data-driven policymaking. Key components include:
 - The [Navigator](#): an open-access online knowledge platform and Digital Public Good (DPG) with 30,000+ users. Recently, the Navigator was updated to include new content on AI for Public Policy, which aims to bridge the AI knowledge divide.
 - The [Training](#): a modular 4-day in-person training program; upskilled 300+ mid-level policymakers from nine countries
 - The Champions Community: a peer-to-peer learning and exchange community for policymakers who are actively working on data use cases and have attended the in-person Data to Policy Training; with 50+ engaged Champions
- To ensure that DPI is safe, trusted, and inclusive for all, UNDP is supporting the mainstreaming and in-country adoption of the Universal DPI Safeguards Framework, as part of the broader [DPI Safeguards](#) initiative, which is co-stewarded with the UN Office for Digital and Emerging Technologies.
 - Complementing this initiative, UNDP developed a Governance Assessment Framework for Data Exchange Systems (DES) which provides guiding principles and standards to appraise the policy, regulatory and institutional

arrangements of national data exchange systems and thereby facilitate data (re-) use for science and innovation.

These instruments, frameworks, and initiatives not only promote innovation but also safeguard against misuse, ensuring AI serves inclusive and sustainable development goals.

4. Are you engaged in promoting open innovation or open data? If not, why? If yes, can you share specific projects and outcomes? (Please provide relevant details such as links, budget, evaluation, or other information to characterize them)

UNDP actively promotes open innovation and open data initiatives. UNDP has embedded open source both into its organizational approach and country guidance. UNDP is also part of the United Nations' internal and emerging open-source community and is developing proprietary open-source solutions and digital public goods (DPGs).

At the global level, we are a co-founding partner of the Digital Public Goods Alliance (DPGA), which endorses and supports open-source technologies that can be adopted and adapted across countries.

To further empower local and regional public and private actors to effectively adopt open-source technologies for delivering digital government services, UNDP is also collaborating with ITU on the [Open Source Ecosystem Enabler \(OSEE\)](#) project with funding from the EU, designing and staffing 2 full-scale national-scale [Open Source Programme Offices \(OSPOs\)](#), and running a network of 25 additional countries interested in their own OSPO.

At the country level, UNDP has also helped governments launch open geospatial platforms for climate resilience, allowing stakeholders to access, share, and use data on disaster risks and environmental changes. Similarly, open-source tools are being deployed for SDG monitoring and tracking.

5. Are you engaged in putting in place mechanisms to foster collaboration around AI and data for science and innovation among different stakeholders (e.g., university-industry, or private-public)?

To close the AI equity gap, UNDP aims to strengthen local AI ecosystems by addressing gaps in four key areas: 1) representative data sets, 2) local talent, 3) compute power, and 4) responsible AI adoption.

To build an enabling environment for AI, UNDP has been conducting AI Landscape Assessments (AILA), a comprehensive analysis of national AI ecosystems, infrastructure, capacities, policy and regulatory frameworks, and ethical approaches. Since its launch in 2023, through AILA, UNDP provided governments from 10 countries with actionable insights and recommendations to inform their AI strategies and identify areas for targeted intervention (Sri Lanka, Colombia, Bhutan, Rwanda, Montenegro, Ecuador, Vietnam, etc.) More than 15 additional countries are set to launch AILA processes in 2025 under the UNDP's AI Sprint. UNDP's AILA insights provide countries with a strong evidence base around which to develop their national AI agendas and governance frameworks. In Sri Lanka and Colombia, UNDP's AILA has helped to shape the countries' first national AI strategy.

The AI Hub for Sustainable Development, powered by the Ministry of Enterprises and Made in Italy (MIMIT), implemented by the United Nations Development Programme (UNDP) and endorsed by the G7 Leaders, aligned with African Union's AI Strategy, focuses on accelerating local private sector innovation and public, and private sector partnerships to advance AI for sustainable development in Africa. Several key commitments and partnerships were announced recently during the Launch Event of the AI Hub for Sustainable Development in June 2025, to harness AI's transformative potential for Africa's development, including:

- AskHub: A gateway for innovators to access AI resources and support, with personalized guidance, comprehensive resource library, and readiness assessments.
- The Africa Green Compute Coalition (AGCC): A flagship of the AI Hub, working with core design partners from G7, Italy and Africa: Alliance4AI, Axum, Kytabu and Cineca to exponentially enable access to scalable, sustainable, and affordable AI compute infrastructure – understanding and partnering with both supply and demand - to precisely target climate positive innovations and industrial development across Africa.
- Compute Accelerator Programme: A six-month programme providing African AI innovators with cloud credits, GPU access, technical training, and partnership support to scale their solutions. Supporting 120 participants through two tracks: compute-ready organizations with market-ready solutions, and early-stage organizations building toward compute readiness.
- AI Infrastructure Builder Programme: Supporting African entrepreneurs building the AI infrastructure that will power the continent's future, connecting Africa's AI Infrastructure builders to an integrated network of government and financing where they can shape the partnerships that the continent needs with the G7, Italy, and the EU.

UNDP launched the Local Language Accelerator in 9 countries (Serbia, Ghana, Republic of Congo—Brazzaville, Democratic Republic of Congo, Mexico, Peru, Namibia, Lesotho, and Algeria) to expand the benefits of AI innovation to communities speaking under-resourced languages

such as Akan Twi, Lingala, Maya or Serbian. The Accelerator works closely with public institutions, academic partners, and local innovators and entrepreneurs to collect and digitize new text and/or voice data responsibly, ensure robust and community-driven data governance, and support the development of public interest-oriented AI applications available to all, regardless of the language they speak. The program also supports governments and public institutions in harnessing the potential of language technologies for better and more inclusive service delivery and advises policymakers on how to better support linguistically inclusive innovation. In Serbia and Ghana, UNDP advised the new national AI strategy's sections on language technologies, ensuring linguistic diversity is seen as key component of inclusive digital transformation.

UNDP is actively working on strengthening institutional and human capacities by providing training and advisory support on data, AI, and digital innovation for governments. For instance, UNDP has provided data governance training in countries such as Kosovo and Uganda to bridge data equity gaps. Also, recognizing the growing need for capacity building, especially around AI and cyber, UNDP's Digital Capacity Lab at UNDP is developing training programmes for governments and parliamentarians on AI. UNDP has also partnered with ITU on global capacity-building to ensure that global efforts then translate to effective, impactful online and in-person trainings for policy-makers, governments officials, members of the business community, and other partners from all over the world. Furthermore, leveraging its presence in over 170 countries and territories, UNDP is a part of the [AI Skills Coalition](#), an initiative of ITU, to deliver AI capacity-development directly to partner countries.

6. Are you engaged in any bilateral, regional, or international partnership aimed to foster AI for STI? (Please describe the benefits and challenges of participating in these partnerships)

UNDP actively engages in multiple international partnerships:

- As a member of the Broadband Commission for Sustainable Development, UNDP contributes to recommendations on digital inclusion, connectivity, accessibility, etc.
- In collaboration with Italy's G7 Presidency, UNDP co-designed the AI Hub for Sustainable Development to drive sustainable AI-based growth in Africa, engaging over 500 local stakeholders and leaders in this co-design process. Launched in June 2025, the Hub centers on inclusive and representative datasets, globally accessible and affordable green computing infrastructure, local AI talent development, and enabling environments for responsible AI adoption. Complementing G7 initiatives, the AI Hub serves as a multistakeholder platform to steer private sector collective action across the African continent, ensuring the AI revolution benefits all. The Hub is a key milestone in

UNDP's overall AI commitment, aimed at bending the arc of AI's global development towards inclusive green growth and sustainable development.

- UNDP in collaboration with the German Federal Ministry for Economic Cooperation and Development (BMZ) announced a [global platform to harness the power of responsible AI for sustainable development](#). At the inaugural [Hamburg Sustainability Conference](#) in October 2024, they presented the launch of the [AI for SDGs Compendium](#), a global registry of AI initiatives for sustainable development, and co-organized the Responsible AI and Digitalization Hub, which focused on harnessing AI for sustainable development, ensuring its responsible and human-centered use. The Hub featured a signature High-Level Event (Responsible Artificial Intelligence for Sustainable Development), during which a joint set of principles on responsible AI was adopted. The principles are structured around the 5 Ps of the 2030 Agenda – People, Planet, Prosperity, Peace, and Partnership. Building on the adoption of joint principles, [UNDP and BMZ endorsed the Hamburg Declaration on Responsible AI for the SDGs](#) at the second HSC in June 2025. This new multi-stakeholder document aims to create a shared global understanding of how responsibly and equitably designed and deployed AI can drive better development outcomes. The declaration outlines concrete commitments that dedicated stakeholders formally endorsed by signing. During the process toward the declaration, UNDP, in collaboration with BMZ, has been conducting stakeholder consultations and workshop sessions at the IGF in Riyadh (December 2024) as well as the AI Action Summit in Paris (February 2025).
- UNDP is a part of the [AI Skills Coalition](#), an initiative of ITU, to deliver AI capacity-development directly to partner countries.
- UNDP was also a part of the Special Meeting of the Economic and Social Council on Artificial Intelligence (AI) in May 2025.

The benefits of these partnerships, coalitions, and forums include access to global expertise, resources, and policy coherence. Challenges, however, include aligning diverse priorities across stakeholders and addressing disparities in capacity and infrastructure between countries.